SPE NEWS

Vol. 3 No. 10

December, 1947

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SPE NEWS

Issued Monthly to all Members of the Society of Plastics Engineers

Vol. 3 No. 10 December, 1947

PLASTICS IN NEW JERSEY

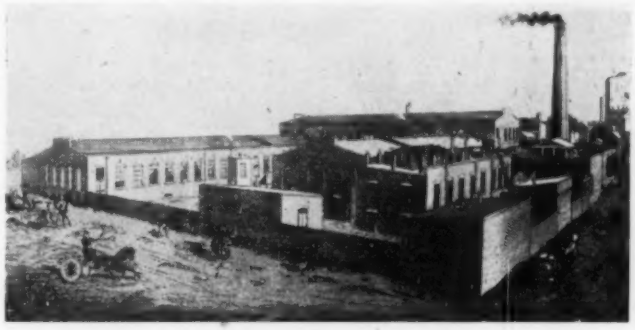
By JAMES T. GROWLEY
Director, Newark Section

From the beginning, New Jersey has led the way in the development and manufacture of plastics, and while our state has long been famous as the "Garden State," now, due to the acumen of its business men, it has acquired a more industrialized renown, and might well be known as the "Plastic State."

In 1872, the Celluloid Manufacturing Company, now the Celanese Plastics Corporation, started the production of Celluloid in Newark. The Cellonite Company which started in Plainfield, N. J. and moved to Arlington, N. J. in 1883, subsequently became the Plastics Division of Du Pont Company. Today, New Jersey is often referred to as the hub of the plastic industry.

There are many historic firsts in New Jersey's plastic history, the development of Celluloid being the most notable. The first practical commercial production of Bakelite in 1910 by General Bakelite Corp., now the Bakelite Corp., was in large part, responsible for the success of the development of many electrical appliances and also aided tremendously in the development of the radio and automotive industry. In 1927, the Celanese Plastics Corporation introduced Cellulose Acetate in the form of sheets, rods, and tubes. Two years later in 1929, Lumarith, a cellulose acetate molding compound was also presented. During 1933 and 1935, the Shaw Insulator Company was granted patents on the transfer molding of plastics. High Frequency preheating of thermosetting compounds originated in New Jersey.

Forty per cent of the industry holds forth within New Jersey's borders in a total of approximately 85 factories, and that forty per cent employs more than 10,000 men and women. No matter what your position is in the plastic industry, New Jersey is bound to play an important part in your life of plastics. First, consider the machinery manufacturers. Injection presses are manufactured by De Mattia Machine & Tool Co. in Clifton, and both compression and injection presses by the Watson Stillman Co. in Roselle. The manufacturers of extrusion presses outnumber the manufacturers of molding presses. A partial list of these would include Hartig Engine & Machine Co., Hillside, Modern Plastic Machinery Corp., Lodi, National Rubber Machinery Corp., Clifton, and John Royle & Sons, Paterson.



THE FIRST PLASTICS FACTORY

Celluloid Mfg. Co. on Ferry St, 1870's, Newark, N. J., on site of Celanese Corp. plant.

As we all know, these machines need dies or molds, and while a good many of the molders and machinery manufacturers make their own molds, there are many concerns that specialize in this work.

Now that you have your machines and the molds to use in them, you naturally come to the raw materials that are so vitally needed. Here in the state of New Jersey, is the greatest concentration of plastic raw material suppliers of any given area in the world. American Cyanamid Co., Bound Brook, Bakelite Corp., Bloomfield and Bound Brook, Catalin Corp., Fords, Celanese Plastics Corporation, Belvidere and Newark, Chemaco Corp., Berkeley Heights, E. I. DuPont DeNemours & Co., Inc., Arlington, and Nixon Nitration Works, Nixon, form a partial list of the raw material suppliers. Hercules Powder Co. in Parlin should not be omitted, since they are processors of flake for the cellulosics. In addition to molding compounds, many of the above concerns supply ma-

(Continued on Page 18)

SPE NEWS

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CLEVELAND 6, OHIO

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Sent free to all members—$2.50 yearly to non-members

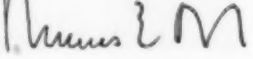
PRESIDENT'S MESSAGE

Make your plans now to attend the National Annual Technical Conference in the Rackham Memorial in Detroit from January 21st to 23rd, 1948.

The Detroit Committee has developed an outstanding Technical Program covering the newest developments in Plastics in 1948. An attendance of over 1000 is expected at this Conference.

If you are not familiar with the Rackham Memorial Building, you will agree that it is the finest engineering building in the country. It has every facility of the finest type. This building will eventually house the National Headquarters of the Society of Plastics Engineers, Inc.

The National Officers of SPE are grateful to you for your effort and support during 1947. We extend to you our best wishes for a Merry Christmas and a Happy and Prosperous New Year.



NORTHERN INDIANA SECTION ORGANIZES

Meeting at the Anthony Hotel at Fort Wayne, Indiana on November 20, 1947 an interested group of plastics engineers, executives and end users formed the Northern Indiana Section of SPE.

National President Thomas E. Orr told of SPE's organization and objectives. National Vice President J. H. Dubois told of value of SPE to the cause of better plastics.

The following Section Directors were chosen: Geo. L. Lawrence, A. G. P. Corp., Box 335 Peru, Ind.; Wayne I. Pribble, Barrier, Pribble and Co., Box 55, Ft. Wayne, Ind.; C. L. Piper, The Magnavox Company, Burter Rd., Ft. Wayne, Ind.; R. D. Sevick, U. S. Rubber Co., New Haven Rd., East., Ft. Wayne, Ind.; Walter Schaefer, Wayne Plastics Co., Fort Wayne, Ind.; Milo Buzzee, Industrial Plastics Corp., Elkhart, Ind.; J. Yobst, General Electric Co., Works Laboratory, 1635 Broadway, Ft. Wayne, Ind.; W. H. Mayer, Mayer Tool and Die Co., New Haven Rd. East, Ft. Wayne, Ind.; Adrian Utzinger, Monsanto Chemical Co., Ft. Wayne, Ind.

PROGRAM OF NATIONAL CONFERENCE AT DETROIT

SPE Prize Papers To Be Read

WEDNESDAY MORNING, JANUARY 21, 1948
CARL J. FROSCH, PRESIDING

Welcome to S.P.E. — Plastics in the Automobile Industry.

1. 9:00 **W. M. Phillips**—General Motors — Welcome to S.P.E.—Plastics in the Automobile Industry.

   Mr. W. H. Phillips—Chem. Eng. degree University of Pennsylvania; has been associated with Phillip Carey Co. at Cincinnati, and Baltimore Lubs Co. at Baltimore. He became successively Chief Chemist and General Mgr. of the Electric Plating Division of the tube company which later grew into the Inlae Mfg. Co. at Detroit. He joined his present employer, the General Motors Corp., in 1919, in an advisory capacity for plating, painting and enameling. Present works consist of research on rubber, plastics, and electroplating. He has been National President of American Electroplaters Society and a national director of the Society of the Plastic Industry. And most important, the second president of the National Society of Plastics Engineers, Inc. During World War II he was associated with the Manhattan Project and the Interim Fire Committee.

2. 9:30 **J. Bailey**—Plax Corporation—Stretch Orientation of Polystyrene and Its Interesting Results.

   James Bailey—Vice President and Research Director of the Plax Corporation, Hartford, Conn.—Degree of Mechanical Engineering from Lehigh University—Corning Glass Works 1912 to 1929—Bailey & Sharp Co., Consultants 1929 to 1937—Plax Corp. 1937—Member American Ceramic Society, Chairman Glass Division 1934, A.S.M.E., Chemist Club of N. Y.—published 20 articles on glass and plastics granted 22 patents on glass and plastics—hobbies fishing and wood carving.

(Continued on Page 27)

NATIONAL HISTORICAL COMMITTEE APPOINTED

National President Thos. E. Orr announces the appointment of Fred Conley, Life Member of the Detroit Section of SPE as National Chairman of a new Historical Committee whose duty will be to preserve and collect records of SPE.

MOLDER desires Sales Engineer in the Illinois and Wisconsin Territory who is in a position to take on another line with his established business and to operate on a commission basis. Write Box B-120, SPE News. c/o J. H. Day, Case Institute of Technology, 10900 Euclid Ave., Cleveland 6, Ohio.

NEWARK SECTION OFFICERS

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JAMES T. GROWLEY
Vice-President

HAROLD E. FRUTCHEY
Secretary-treasurer

J. H. DUBOIS

ISYLN THOMAS

A. J. WARNER

E. F. KEUSCH

JOHN E. CURRIER

E. G. ACKERMAN

Biographies of the Newark Officers and Directors are on Page 4.

INTRODUCING NEWARK SECTION DIRECTORS

The Newark Section lists on its Board of Directors, several internationally known plastics engineers. Several other well known plastics engineers have already served their turn as directors and are now participating actively as heads of the various committees.

First President (1945) — A. J. Warner

A. J. Warner was born in London, England, on March 25, 1913. He joined the staff of Standard Telephones and Cables, Ltd., in 1930 as a metallurgical chemist and in 1932 was granted a leave of absence. In 1935 he received the B.Sc. degree in chemistry from the University of London. He then returned to S.T.C. as a chemist on raw materials and on research problems related to electrical insulation.

In 1940, Mr. Warner was transferred to the New Insulants Factory at Enfield, Middlesex, England, and in 1941, through the parent company, International Standard Electric Corporation, to International Telephone and Radio Manufacturing Corporation in Newark, New Jersey, U. S. A. Later this organization became part of Federal Telephone and Radio Corporation. Near the end of 1945, he was named Manager, Dielectrics Laboratory, Federal Telecommunication Laboratories.

"More pieces to the pound?
but NATURALLY"
Low specific gravity means more molded pieces per pound of raw material with a consequent saving on the cost of the finished article and still further economy in shipping costs. With the lowest specific gravity (1.07-1.18) among cellulose plastics plus complete salvageability, Chemaco Ethyl Cellulose helps the molder keep costs down . . . encourages mass production of low priced articles. CHEMACO CORPORATION, BERKELEY HEIGHTS, N. J. Branch office in Cleveland.
Chemaco
ETHYL CELLULOSE MOLDING POWDERS
ALSO MANUFACTURERS OF CELLULOSE ACETATE AND POLYSTYRENE

Mr. Warner has been designated by the American Society for Testing Materials as one of six members of the Advisory Group which will assist the Armed Forces in technical problems arising in the research program on plastics recently initiated at Princeton University.

He maintains memberships in three professional societies in Great Britain: Chemical Society, Royal Institute of Chemistry, and Society of Chemical Industry. In the U. S. A. he is a member of the American Chemical Society, of Committee D-9 and Secretary of D-20 of the American Society for Testing Materials, past president of the Newark Chapter of the Society of Plastics Engineers, and Vice Chairman of the Technical Committee of the Society of the Plastics Industry.

Second President (1946) — Islyn Thomas

Mr. Islyn Thomas is widely known as the author of "Injection Molding of Plastics" published by the Reinhold Publishing Company. His formal schooling included studies at Johnson Technical School and the University of Scranton of Scranton, Pennsylvania. He also studied at Columbia University in New York.

At the present time, Mr. Thomas is President of the Thomas Manufacturing Corporation of Newark, New Jersey. He was formerly General Manager of Ideal Plastics Corporation of Long Island City, New York. Prior to that assignment, he served as Manager of the Development Division of Consolidated Molded Products Company of Scranton, Pennsylvania. He was also formerly Instructor of Plastics and Mold Design at Brooklyn Polytechnic Institute, Brooklyn, New York. Other plastics affiliations include membership in SPE and PEA.

President (1947) — Milo B. Gerow

"Mike" Gerow graduated from the University of Delaware in 1931 as an electrical engineer. He serves Hercules Powder Company, Cellulose Products Department, as Technical Sales Engineer and is well known for his authoritative handling of these products. Mike has done an outstanding job for SPE and is handling a heavy load in connection with the January conference.

J. Harry DuBois, National Director from Newark

J. Harry DuBois is National Vice President of SPE and a member of the Executive Committee. He is also a member of SPI, American Society Testing Materials, National Chemurgic Council, and the Plastics Pioneers. After graduation from the University of Minnesota in 1927, he took the Student Training Course of General Electric Company and, in 1928, initiated the sale of Plastics for General Electric in the Chicago area. After serving General Electric Plastics in a variety of assignments, Mr. DuBois joined Shaw Insulator Company in 1944 as Executive Engineer carrying the responsibility for Sales, Engineering and Research. His books "Plastics" and "Plastics Mold Engineering" are extensively used throughout the world. As Technical Consultant to the U. S. Office of Education, he directed the production of a series of educational films on plastics.

(Continued on Page 25)

Mack Molding Co.

Wayne, N. J.

Arlington, Vt.

Waterloo, P. Q., Canada

•

Custom Molders

•

Inquiries
Invited

MEMBERSHIP COMMITTEE

By JAMES T. GROWLEY

In April 1945, the Newark Section of the SPE was formed, with a nucleus of approximately 50 members. This Section has made rapid strides, and at the present time, has approximately 200 members enrolled. At least 50 of these have become new members during the year of 1947, and before the close of the year, the Newark Section expects to have a total of approximately 100 new members. During the first year, the number of new members taken in by the Newark Section was astounding, and since then there has been a steady rise in the membership. The month of December is being set aside by the Newark Section as "New Membership Month," and each of the present members was requested to bring a prospective member to our meeting on the night of December 9. At the rate that the Newark Section is growing, it is expected to be the largest section of the entire SPE.

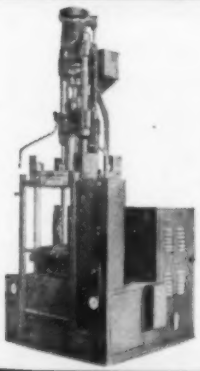
EAST NEW ENGLAND NEWS

By E. V. PAINTER

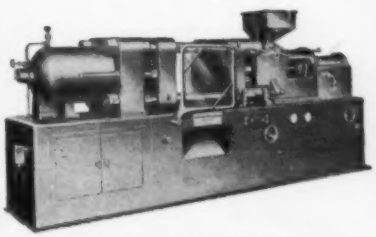
The Eastern New England Section met November 20 at the Hotel Puritan in Boston to hear Frank Rideout speak on "Vinyl Resins Grow Up." The December meeting has been postponed till the early part of January.

WATSON - STILLMAN
Roselle, N. J.
Est. 1848

"COMPLETE LINE"

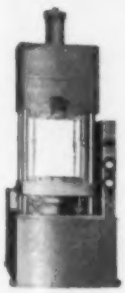


Vertical Injection Molding Machines 1, 2, and 4 Ounces



Horizontal Injection Molding Machines 8 to 80 Ounces

Preform Tableting Machines 10 and 100 Tons



Transfer Molding Machines 30 to 1200 Tons

General Purpose Presses 20 to 200 Tons

Compression Molding Presses 50 to 1200 Tons

THE CHALLENGE TO TRADE ASSOCIATIONS

By M. R. GEROW

We believe that the success of the Newark Section is mainly the function of our undivided efforts to disseminate technical knowledge to our members, non-members, schools, government and the users of plastics. I urge all recipients of the "SPE News" to read carefully the reprint in this issue from "Printers Ink." While SPE serves the plastics industry as a technical society rather than a trade association, we have the same will to serve in our technical capacity. To the President of Printers Ink, Mr. C. B. Larrabee, I say, "We agree with you Mr. Larrabee and SPE is determined to serve the best interests of the public."

M. R. Gerow.

* * *

THE PUBLISHER SPEAKS

Today's opportunity for trade associations

Almost all of us, through our companies, belong to one or two trade associations. Many of us have done active association work. Therefore, we should be pretty well alive to today's challenge to trade associations.

Most trade groups, like most companies, started in a small way. They were formed for a specific purpose or to meet a specific need.

Many associations date back to the days when Washington first became an important factor in industrial plans. Many others were started to eliminate, as far as possible within the law, certain unnecessary competitive evils. It would be rather hard to find any trade group that commenced life with a broad, general program.

During the '20's and early '30's, the trade association movement grew up. Groups kept their Washington representatives, but their eyes turned to wider horizons. Some of the leading associations became powerful voices for industry good.

With the war, the eyes of many groups were turned back to Washington. Programs of broad expansion died because many materials were in short supply, and other materials, in good supply, had to be used entirely for war work.

Probably never again will business be as free to operate from government control as it was during the '20's. Therefore, Washington activities will remain an important part of association activity. But the challenge facing trade associations today is once again to lift the eyes beyond the Capital dome.

We hear a lot about business statesmanship. We see far too little of it. Yet the association movement needs such statesmanship today as never before.

Recently I went to a convention. I was impressed by the statesmanlike attitude of some of the speakers. I was more impressed by the fact that these speakers were far more progressive in their views than the statements released by the association of which they are members.

I wonder if there is a kind of Gresham's law of trade association practice which says that publicly the association shall represent the views of its most conservative members. I hope it isn't a law because such a condition would be very bad for the reputation of trade associations in the eyes of the American public.

So here is a second challenge to trade associations. They should be moved by a spirit of interest in the public good. They should realize that often a special privilege enjoyed too long ends in the destruction of those whom it has sought to benefit. They should realize that no group in industry can long prosper at the expense of other groups. They should realize, above all, that if they are to preserve the spirit of the free enterprise system in which they believe, they should show that that system stands for the progress and well-being of the American people.

Fortunately, many associations show that they realize their obligations. Unhappily, too many don't.

And it is my belief that the backward, selfish, narrow-interest groups do not represent the majority opinions of their members.

The challenge is here. Trade associations can if they will be strong, progressive forces. If they are not, they invite their own destruction. And if they fall, they may bring down the house of free enterprise with them.

President and Publisher.
C. B. LARRABEE.

(Reprinted by permission of C. B. Larrabee)

NEWARK PREPARES PLASTICS MANUAL FOR ARMY

By CARL J. FROSCH, Chairman

Up to the present time the participation of the Newark Section in the National Program of Professional Activities as reported in the September 1947 issue of the SPE News has been somewhat limited. This has not been due in any way to a lack of interest but rather to a feeling on the part of the membership that a more concise or definite program assignment is necessary. A recent discussion of this problem with Mr. Robert G. Chollar, National Chairman, has revealed that this feeling is rather general and a basic change in the program will be announced in the very near future. Under the new program emphasis will be placed on End Use Specifications with definite assignments to the Sections based on Industrial Density in a particular field such as Radio. It is expected that this new approach will result in a program of Technical Activity which will be a credit to the Society and of great value to Consumers of plastics.

The Newark Section already has accepted a definite assignment from the Picatinny Plastics Laboratory of the Ordnance Department of the Department of the Army which will involve the preparation of an "Inspection Manual For Plas-

(Continued on Page 9)

For special performance, use Beetle* compounds...

In addition to being a magnet for eyes, colorful BEETLE moldings also stand on their record as great performers.

It will pay you to get all the facts about BEETLE plastics . . . their advantages, economies . . . the possibilities they offer for better design. Send for your copy of the new folder, "Designing for Sales with Molded BEETLE Plastics."

American Cyanamid Company, Plastics Division
30-38 Rockefeller Plaza, New York 20, New York

BEETLE* plastics—urea-formaldehyde thermosetting molding compounds . . . MELMAC* plastics—melamine-formaldehyde thermosetting molding compounds, industrial and laminating resins . . . URAC* resins—urea-formaldehyde thermosetting industrial resins and adhesives . . . MELURAC* resins—melamine-urea-formaldehyde thermosetting resin adhesives and laminating resins . . . LAMINAC* resins—thermosetting polyester resins . . . PHENAC* resins—phenol modified resorcinol thermosetting resin adhesives.

*Reg. U. S. Pat. Off.

WON'T BE SHOCKED

BEETLE moldings offer an unbeatable combination of performance advantages . . . an important one of which is high electrical insulation properties. And, being a thermosetting plastic, BEETLE will not soften under exposure to heat.

WON'T LOSE SHAPE OR FACE

Because of their dimensional stability and chemical inertness, BEETLE plastics keep their shape—won't warp or sag. And to list a few more A's on the performance report card: BEETLE compounds are not affected by alcohol acetone, essential oils and common solvents . . . they are extremely lightweight . . . odorless, tasteless . . . and are excellent for diffusion and transmission of light.

WON'T GET LOST IN A SCUFFLE

Don't be afraid of chipping and scuffing. A BEETLE compound is all color. It offers great resistance to wear and abrasion . . . is mar-proof and chip-proof.

WILL INCREASE YOUR SALES

All signs lead to the fact that, in the future, BEETLE plastics will even break all of their past popularity records. They bring many performance-plus values to the hard-selling days (and nights) that lie ahead . . . and their permanent, rich colors and finishes start sales moving from the second they get the range of a customer's eyes.

WILL INCREASE YOUR PROFITS

Because BEETLE compounds are so easy to mold and are so easily sold, BEETLE-made products are more profitable for manufacturers, molders and retailers. Book your reservation on the year-round BEETLE plastics sales and profit cruise!

Cyanamid Plastics

PLASTICS EDUCATION IN THE NEWARK AREA

By J. H. DUBOIS
National Director, Newark Section

LOUIS F. RAHM

Under the direction of Professor Louis F. Rahm, Princeton University has developed an important program of instruction and research in plastics.

Professor Rahm also serves SPE as Chairman of the Educational Committee. In doing this job, he has gathered together an outstanding group of Educators and Plastics Engineers from industry who are developing an educational program for the guidance of institutions interested in establishing curricula in plastics.

The Princeton University School of Engineering-Plastics Program was announced in 1945 and has since developed a full fledged curriculum of study in plastics.

The primary objectives of this program are instruction and research in the application, fabrication, processing and basic properties of plastics as engineering materials. These objectives are realized, on the one hand, through engineering courses of instruction for undergraduate classes. This work is expanded at the graduate level by instruction and research in high polymer chemistry and in the engineering involved in the production and application of plastics materials.

The scope of this field embraces molded and cast products, laminates, films, filaments and textiles, adhesives and coatings. All polymeric materials whether of fibrous, elastomeric or resinous character are considered to lie within the range of the Program.

Two undergraduate courses, offered as electives, provide a basic background in plastics supplementing the training received in specific undergraduate engineering fields. There is a growing demand in industry for mechanical, electrical and chemical engineering Bachelors with such training.

In contrast to this the graduate curriculum offers specialized instructional and research training of particular value in subsequent application within the plastics industry. The industry has long felt the need of such trained personnel.

A varied staff of full-time research personnel, graduate research assistants and faculty members are currently engaged in a program of basic research sponsored by the government.

Five advanced courses, comprising the Graduate Curriculum in Plastics, lead to the degree of M.S. in Engineering. This plactics curriculum is unique in the type of coordinated graduate study offered. In addition, it affords supplementary research training which is an important adjunct to the instructional program and invaluable in further application to pure or applied research in plastics.

* * *

Louis F. Rahm started his association with plastics as a boy through summer work with the Viscoloid Company of Lecminster, Massachusetts. In 1921, on receipt of a Mechanical Engineering degree from the University of Michigan, he returned to this company, (now duPont Viscoloid). as designer and followed this as designer with the Chas. Burroughs Company of Newark, N. J. Joining the Princeton faculty in 1926 he taught Thermo-dynamics, Power Plant Engineering, Marine Engineering, and air-conditioning. Since the development of Princeton's engineering plastics program in 1945 his time is completely devoted to the teaching of plastics engineering subjects and to the administration of the instructional and research work under this program. He is the Director of the Plastics Laboratory at Princeton.

He is the author of "Plastics Molding," the earliest book in this field; and of various technical articles. He is a member of S.P.E.; S.P.I.; A. S. M. E.; A. S. E. E.; Sigma Xi, and the Princeton Engineering Association.

IMPERIAL
PRECISION CUSTOM MOLDERS
of Bakelite, Plaskon, Tenite, Beetle, Durez, Makalot, Lucite . . .

★ COMPRESSION PROCESS
★ COMPLETE ENGINEERING AND DESIGN SERVICE
★ MOLDS MADE IN OUR PLANT

As a pioneer in the plastic industry, Imperial Molded has acquired broad experience in handling of inserts, molding of threads, making deep draws, side-cores, horizontal bosses, etc. Much of the work, involving the solution of tough problems, has resulted in new advances in compression molding accuracy on a commercial basis.
Ask for Bulletin K-200 which is a brief picture story of how Imperial Molded operates. Also Bulletin K-100 showing stock pulls, knobs and handles.

IMPERIAL MOLDED PRODUCTS CORP.
L. H. Amrine, President
2961 West Harrison Street, Chicago 12, Illinois

ARMY MANUAL (Continued from Page 6)

tics." The manual is to be simple and descriptive in nature with adequate photographs so that even untrained personnel can follow its precepts without difficulty especially in times of National emergency. It will cover all phases of production from the molding material to the finished product. There is no question as to the need and value of such a manual not only to the Armed Services but also to the entire Plastics Industry. The Armed Services will bear the cost of printing and illustration while the Newark Section will collect and edit the necessary information. For the latter purpose definite assignments will soon be made to specialists in particular fields such as mold design, mold construction, molding powders, injection molding, compression molding, testing, etc. to collect and edit the necessary information. There is no other organization in plastics which is in a better position than SPE to help our Country in a matter of such potential importance. It is with a feeling of pride that the Newark Section accepts the opportunity to be of assistance.

DETROIT PRO ACTIVITIES COMMITTEE REPORT

A meeting of the Detroit Section, Professional Activities Committee, was held in the Rackham Building on November 20, 1947. The meeting was called to order at 10:30 a. m. by Mr. J. Mickey, Detroit general chairman. The following members were present; Mr. W. Bradley, Mr. H. Haaxma, Mr. A. Hendershot, Mr. C. Holmes, Mr. H. Kline, Mr. W. Kosy, Mr. J. Mickey, Dr. C. Selheimer, Dr. E. Storfer, and Mr. J. Totten.

The first topic of business concerned the panel discussion group for the public meeting 11-21-1947. Dr. Storfer, the Forum chairman asked Mr. Mickey to be the topic chairman for the evening. The subject for discussion being Compression Molding. Others asked to take part in the panel were: Mr. Kosy, Mr. Haama, Mr. Totten, and Mr. Whitlock.

Dr. Storfer suggested that future Forum meetings be concerned with topics related to the subject treated by the principal speaker of the evening. It was reported that the speakers have

(Continued on Page 12)

PRECISION MOLDING OF ALL PLASTICS

SHAW-MOLDED PLASTICS products have behind them almost fifty years of specialized experience. Shaw developments, such as Transfer molding, have broadened vastly the practical application of plastics. Shaw offers a complete and imaginative molding service — from design on through finishing.

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NEWARK — PLASTICS TOOL CENTER

By E. J. CSASZAR

The plastic mold, and its ability to produce plastic parts to desired specifications at profitable productions rates, is no doubt one of the most important single items that has played its part in making the plastic industry what it is today. In addition to its importance as a tool for the fabrication of plastics, the mold usually represents a sizable money investment on the part of the buyer. While waiting for the mold to be constructed, the buyer also invests precious time against an ever-changing market for his product. The business of purchasing molds and related tools, then, becomes an extremely important consideration in the planning of any production program involving molded plastic parts. Many buyers are well aware of this situation and their careful buying has developed the Newark area into the foremost tool center for plastic molds, in the country.

The Newark area has been able to meet this challenge because of its unique background and early start in the industry. Since some of the very first moldings were made in the vicinity of Newark it is not unusual that the first molds were also made here. This in turn introduced advanced thinking relative to mold design. As it became known that Newark knew about molds and their design, the demand for more molds grew. Molds from this area are shipped to the West coast and to many foreign countries.

The volume of these demands forced more and more Newark people into mold work. Enterprising individuals left some of these original mold shops and started shops of their own. There was no need for them to move out of Newark's vicinity as business was plentiful and there was enough for all. Thus, as the industry grew, mold making grew in Newark. As more money was spent in Newark for molds, more was spent experimentally to devise more intricate designs and faster and better ways of building them. Each and every

Ernest Csaszar, born in Newark in 1918, received his B.S. in Mechanical Engineering at Newark College of Engineering in 1940. He was for four years at Universal Plastics Corp. in charge of tool design and procurment, and is presently with Eagle Tool and Machine Co. of Newark.

He was stationed at Naval Ordnance Laboratory in Silver Springs, Md., and assigned to investigations of molding operations and design relative to Naval Ordnance applications of plastics. He also worked on the development of plastic prosthetic devices for the Naval Medical enter at Bethesda, Md.

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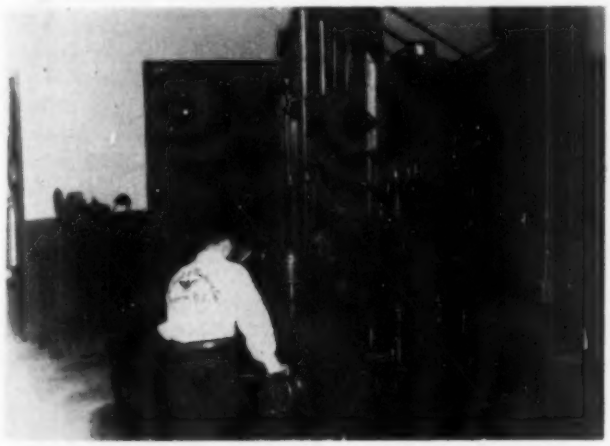
TOOL CENTER

(Continued from preceding page)

new mold built added to the "experience" of the mold maker. As experience at that time was the only teacher, the knowledge for building good molds grew very rapidly among these pioneer mold makers.

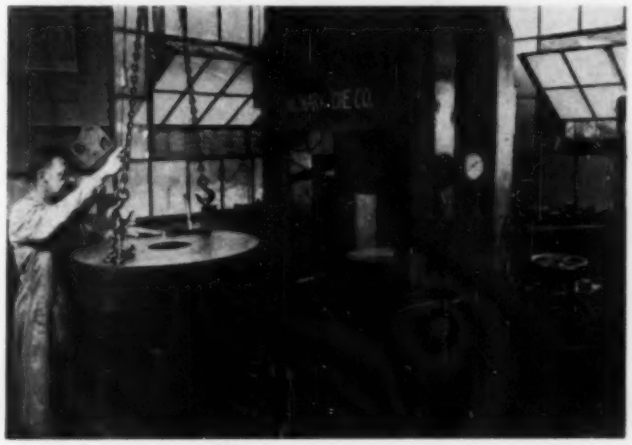
Demands for intricate shapes on molded parts indicated the use of specialized machine tools. As the years went by these special tools were added. Mold shops in the Newark area boast of a compiete line of the latest machine tools for the economical production of intricate shapes. These machines, in most cases, are automatic, extremely sensitive to faithful reproduction and much faster than the conventional types used previously. Figure 1. shows a typical installation of one of the larger machines, of the duplicating variety. This machine can handle cavity sizes up to 30 inches by 60 inches which is well in excess of the molding capacity of most commercial molders.



Duplicating machine capable of handling 30 by 60 in. molds

Keller, Gorton and other types of duplicating equipment of all sizes are to be found throughout the Newark area, backed up by many years of experience on how to get the most out of them.

As the plastic industry grew, there came a demand for multiple cavity molds, each cavity to be identical with the other. The hobbing method of making these cavities has become an extremely important phase of the mold making industry. This method of manufacture was pioneered in the Newark area by the Chas. Burroughs Company. Profiting by the experience of this early start, the Newark area has gone on to lead the field in this type of work. Located here are numerous hobbing presses, ranging from 100 to 3000 tons of capacity. Some shops have as many as seven presses to cover most economically the different types of hobbing applications that are encountered. Fig 2. shows a typical hobbing installation of a 2000 ton hobbing press. The vast amount of engineering and practical experience that has been involved in the hobbing technique can only be evidenced by the thousands of successful jobs that speak for themselves.



2000 Ton Hobbing Press

Newark is a business center for many industries. Thus, the moldmaking industry is in a position to take full advantage of the many facilities provided by these other industries. Steel shipments are prompt. Forging facilities are readily available. Shipments by rail, motor truck and air can be made with the least delay. Mold shops can get supplies on very short notice and this time saving is reflected in delivery dates.

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HESS AND WILSON SPEAK AT CENTRAL OHIO

By C. W. COOPER

The November meeting of the Central Ohio Section of the Society of Plastics Engineers was held on Friday, November 14, at Granville Inn, Granville, Ohio. The total attendance was 24, of which 3 were guests.

Mr. J. G. Wilson, Vice President of the Miami Valley Section and W. L. Hess, National Vice President of the SPE Professional Activities Committee, led a discussion concerning professional engineering activities in the plastics field, and in SPE in particular. This is a field in which the Central Ohio Section has not been active.

In an informal round-table atmosphere, there was a lengthy discussion on the place of the local sections in the National Professional Activities Committee, and it was felt that a much better picture of the national program was gained during the meeting.

It was definitely decided that local sections of the Professional Activities Comimttee can act only as starters for the National organization by furnishing the logical people to participate in the National program. It was also decided that the Central Ohio group would fit most naturally into the chemical investigation committee activities.

The next meeting has been scheduled for Friday, December 12, at the Lancaster Country Club, Lancaster, Ohio. The program for this meeting will be three-fold. This is the annual business meeting at which officers for the new year will be elected by the Board. In addition, a movie on Tenite, furnished by the Tennessee Eastman Corp., will be shown, and Thomas E. Orr, National President and President of Plastics Engineering Inc., will speak on the national organization and its activities.

ST. LOUIS HAS XMAS PARTY

By J. MAVER FEEHAN

The December meeting of the Section will be a dinner meeting at the Melbourne Hotel, at 6:30 p. m., Wednesday evening, Dec. 17, 1947. This will be the annual Christmas Party and each member is to bring an inexpensive plastic gift for the "grab bag." After dinner, the speaker will be Mr. Harold D. Duffy, Sales Mgr. of the S. G. Adams Co. of St. Louis. His subject will be "What you can do about your luck." Mr. Duffy is well known as an entertaining speaker and this last meeting of the year promises to be one of the best.

The St. Louis Section is also pleased to report the conclusion of the Plastic Course for retail sales personnel which was sponsored by the Section in cooperation with the Board of Education and the Associated Retailers. Comment on this course has been most satisfactory and the persons attending state that they have found it highly informative.

DETROIT ACTIVITIES

(Continued from Page 9)

already been secured for the late winter and spring meetings, so Dr. Storfer was asked to get in touch with Mr. Koons to enable him to coordinate the Forum subjects with the subject of future speakers.

It was further suggested by Dr. Storfer that Plastics Materials representatives be asked to sit on future Forum panels. By common consent this was agreed to.

Mr. Kosy mentioned the Plastics and Rubber Laboratory and equipment at the Wayne University, stating that many SPE Members have never seen this lay-out. Ensuing talk led to the decision to ask Dr. Tillotson to present the Wayne project at a future meeting and to extend an invitation to members to inspect the equipment and to acquaint themselves with the scope of work which the laboratory is prepared to handle. It was also suggested that a panel discussion might be devoted to this project.

Remarks of commendation were made concerning the advertising bulletins sent to announce the public meetings. One suggestion which was made and accepted with favor was to the effect that it may be a good policy to add a reference to the next monthly meeting describing the talk and the date of the meeting scheduled for the month following.

Mr. Totten, national chairman of the Molding Technique Committee, reported that he has sent out circular letters preparatory to assigning topics to local sections for literature survey. Two questions came up for discussions:

(1) Does molding and processing of laminated sheets, rods, and tubes, and their fabrication, belong under the Molding Technique or the Laminating Activities Committee? Mr. H. Kline, national chairman of the Laminating Activities Committee, and others, concurred that the above functions come under the scope of the Laminating Committee.

(2) In a discussion pertaining to the assignment of projects to various sections, Messrs. Bradley, Haaxma, and others ventured the opinion that there was sufficient interest to warrant the Detroit Section being assigned Extrusion Molding of Thermosetting and Thermoplastic materials.

Among other replies received by Mr. Tottem was one from Mr. Carl J. Frosch, Vice-chairman of the National Professional Activities Committee, stating that local sections would be given group assignments. Detroit SPE for instance would be asked to cover all plastics activities relative to automobile manufacture. Discussion on this subject was practically unanimous in objecting to a move of this nature. No local section of the SPE is entirely composed of people confined in business or interest to the manufacturere o fone product. Joint committees concerned with some phases of the national committee's program relative to automotive uses would be more applicable.

After an old wood engraving by T. Burkett

Once more the rapid, fleeting year
Has brought old Christmas to the door;
Come, let us treat him with such cheer
As folks were wont in days of yore . . .

J. BRIDGEMAN

NIXON NITRATION WORKS

Purely Social

By E. F. KEUSCH

The Newark Section celebrates the advent of Spring each year with a dinner-dance. This affair adds variety to the year's program and provides an opportunity for our ladies to participate in our activities as a reward for their tolerance toward our many absences from home while attending regular meetings, special committee meetings and other sundry duties in behalf of SPE.

Considerable effort is expended to give these social gatherings a bit more flavor than the usual type of dinner-dance. The dining and dancing is augmented by drawing and awards of a variety of valuable door prizes that are donated by the members' companies. Also, some other type of entertainment is afforded.

In order to determine the best type of program to follow, the dance committees have done a bit of experimental work. In 1946 an elaborate fashion show was staged with the assistance of one of the large stores in Newark. This show had a number of luscious models wearing fancy creations ranging from fur coats to bathing suits. This feature proved to be quite a hit with the ladies but was also expensive to stage. To cover the additional cost, attendance was thrown open to the public, and with high pressure sales by the members the attendance was considerably over 400 people.

In 1947 the entertainment angle was not as elaborate as the year before and also attendance was limited to SPE members and their guests. Slightly under 300 people attended this 1947 party.

The sampled opinion from the Newark membership seems to indicate the more modest affair with the restricted attendance is the more desirable.

The Newark Chapter heartily recommends this type of social interlude to other SPE chapters for variety in the year's program.

NEW ENGLAND HEARS GOSS

By GEORGE W. MARTIN

The November meeting of the W. N. E. S. of SPE met on Wednesday the 5th at the Hotel Sheraton in Springfield.

The regular business and reports were quickly dispensed with and Mr. Petretti turned the meeting over to Dick Richardson who, in turn, introduced the guest speaker of the evening. Mr. Wyman Goss of Plastics div. of General Electric Company.

Mr. Goss had for his subject, "The Practical Evaluation of New Plastic Materials Compared to Those already Available."

The general theme of the talk was to point out that although there have been numerous new plastic materials developed and made available

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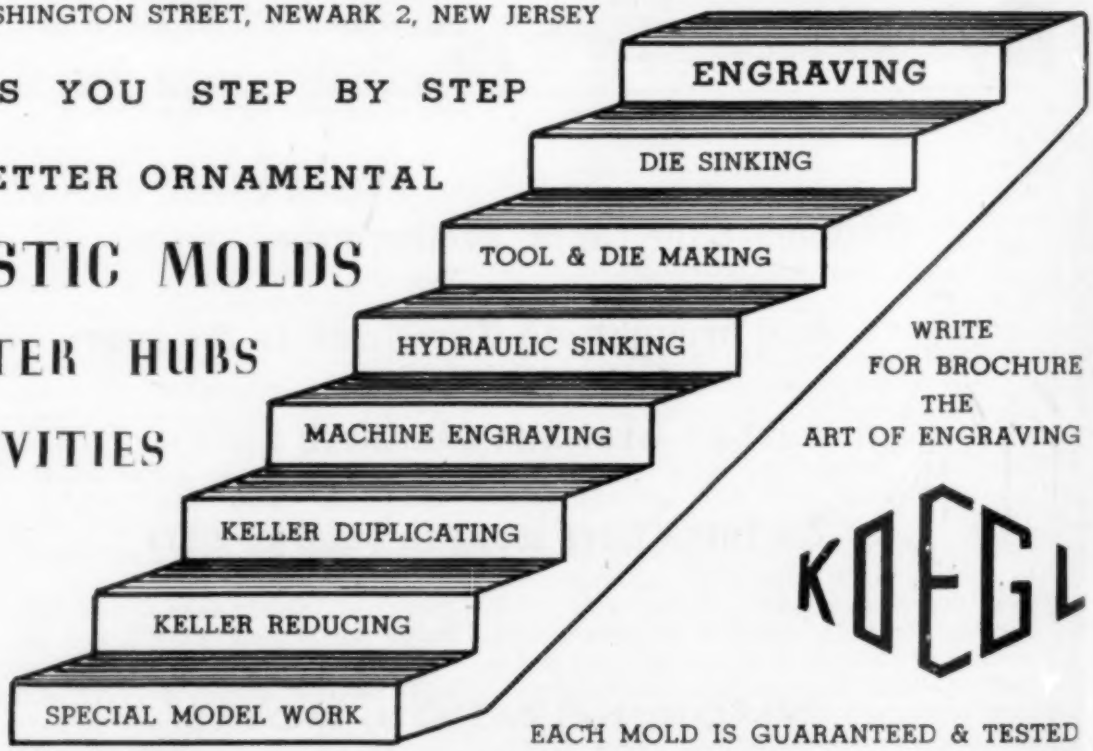

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during World War II, a good many of the old stand-bys have been improved over their former standards to a point where heretofore unsatisfactory applications are now possible.

Mr. Goss explained that one of the most interesting thermoplastics is polystyrene. Because of its good moldability, color possibilities, reasonably good mechanical properties and excellent electrical characteristics, this material has a great interest to the molder and his customer. The price of this material makes it highly competitive with thermosetting materials when molding costs are considered and its lower specific gravity all combine to make this material one of those with great possibilities for wide application.

Mr. Goss went on to discuss in like manner, polydichlorstyrene, c e r e k, polyvinylcarbazole, plexene, polyethylene and cellulose propionate; also spending some time discussing paste resins and furfural modifiers.

One point that Mr. Goss did strive to leave with the group was that a great responsibility lies with the molder to supply his customers, and the general buying public with correct applications. Now is the time for everyone of us to prove to the public that the plastic industry is a good, sound, and responsible group of manufacturers.

At the conclusion of the talk, considerable discussion was aroused and enjoyed.

BRACKEN AT MIAMI VALLEY

By JOHN L. RUSSELL

Dayton and Cincinnati members of the Miami Valley Section met at the Mariemont Inn, Cincinnati, O., on November 6th to hear Mr. William O. Bracken, Technical Sales, Hercules Powder Co., talk on "Dimensional Stability of Cellulose Plastics." Mr. Henry P. Grace, also of the Hercules Powder Co. was chairman of the meeting.

Mr. Bracken is engaged in technical sales work in the Cellulose Products Dept. and has been associated with Hercules since 1939. He graduated from Tufts College in 1936 with a degree in Chemical Engineering and was with General Chemical Co. before joining Hercules.

In his work with Hercules, Mr. Bracken works with various cellulosic materials, principally Cellulose Acetate and Ethyl Cellulose, from their raw material stage to the finished product. In addition to following cellulosic developments in Hercules Laboratories he has considerable contact with molding powder manufacturers and molders fabricators. He has been closely associated with the development of cellulosic laminates by Hercules. He is a member of the American Chemical Society, Society of the Plastics Industry, Society of the Plastics Engineers and Alpha Tau Omega.

A very special program has been arranged by

(Continued on Page 22)

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INJECTION MOLDING of PLASTICS

Important Facts on a **NEW BOOK**

By ISLYN THOMAS

President, Thomas Manufacturing Corp., Newark, N. J.

FOR the plant engineer, the product and mold designer, the shop foreman, the plastics technologist — a detailed, specific and thoroughly practical coverage of the history, development and mechanical problems involved in injection molding. This is a unique volume indeed, written by an engineer of great competence and broad experience. An idea of its scope may be gained from the fact that it contains 450 illustrations (including five color plates), most of which deal with the mechanical details of presses, mold design and operating techniques. Everything of any importance regarding injection molding is recorded, and up-to-date methods of designing, machining and utilizing molds with all types of plastics are fully and painstakingly described. This book will be invaluable to everyone engaged in molding plastics by the injection method.

WHAT REVIEWERS SAY ABOUT THIS NEW BOOK:

Dealing solely with injection molding and the surrounding problems this is the first volume to be written exclusively for this branch of the plastics industry. The author himself has a background of technical "know how" in modern injection methods which is definitely reflected in the concise presentation and solution of the manifold problems of this industry.

Not to be confused with strictly scientific work on injection molding, the author does expound the scientific and theoretical end of both machine and material employed. Frankly, Injection Molding Plastics, is the only book for the person who is looking for reliable data on injection molding problems. Ideally written for the executive or man in the plant, technicians will value this book for ready reference information which so clearly means better moldings through injection.

Canadian Plastics, May 1947.

Mr. Thomas, who is president of the Thomas Engineering Corporation, Newark, N. J., is most eminently fitted for the production of this book in view of his extremely wide experience in this specialized field. He has, in fact, produced a monumental work, unique in design, completely balanced and eminently satisfactory from an engineering point of view.

Both author and publishers are to be congratulated on this production, which places on record a clear and factual record of this branch of engineering science. *Plastics.*

Proprietors—Temple Press Limited
Managing Dir.—Roland E. Dangerfield
Editor—M. D. Curwen, B.Sc., A.R.I.C.
Offices—Bowling Green Lane, London, E.C.I.

For those who want to be up-to-date on injection molding of plastics and the plastics industry a comprehensive book on injection molding is long overdue. In this field Mr. Thomas' book is the first of its kind. He has selected his material thoughtfully, and has brought to its presentation the care and precision gained in over sixteen years of practical experience in the plastics industry. The book is at once a text in its factual sequence, a handbook in its wealth of technical data, and a complete survey of plastics and injection molding that is simple enough for the laymen to follow. No effort has been spared in assembling data covering every branch of the industry, and these have been made graphic by hundreds of instructive illustrations. Industrial schools, engineering colleges, designers and molders should find this book indispensable.

It cannot be too highly recommended to all those who are interested in plastics or who plan to share in the industry's bright future.

CHARLES A. BRESKIN,
Editor and Publisher
Modern Plastics.

By his many years of practical experience and his competent presentation of the subject, Mr. Islyn Thomas has produced a book which should be a valuable source of information to all who are interested in this important section of the industry. Dealing with all aspects of injection moulding, from its early history to the finer points of moulding technique, it is written in a clear and practical manner, equally suitable for students, technicians and newcomers to the industry.

It is to be hoped that this is one of the first of many similar publications—in which a specific section of the industry is competently presented by an expert in that particular sphere.

British Plastics, July, 1947.

An exceptionally complete treatment on the subject, this volume gives a background history of the industry, a full discussion of both the materials and production techniques, discussion of product design for molded parts, the design and construction of molds and of estimating and costs. Appendices give definitions and data of physical properties.

The book is at once a text in its factual sequence, a handbook in its volume of data and a survey of plastics and injection molding that is simple enough for the layman to follow.

—*Product Design and Development News June, 1947.*

A great deal more is covered than is given in this short review and the book seems to have covered the field extremely well. It appears to this reviewer that this book could well be used as a text in a course on injection moulding. Supplemented by actual problems under the guidance of competent instructor such a course would enable the student engineer, manufacturer or injection shop foreman to cope with practically any problem which might come up in the course of his work.

—R. P. PIPEROUX,
Celanese Corporation of America
Chemical Industries, Sept., 1947.

Mr. Thomas' book, *Injection Molding of Plastics*, is the first to the reviewer's knowledge to cover adequately this specialized form of molding. The book, which can be used as a textbook as well as a handbook, is written in laymen's language, and contains many excellent photographs and diagrams with each chapter.

Because of its up-to-date and comprehensive treatment of injection molding, the reviewer recommends this book very highly to anyone —technician or layman—interested in plastics.

W. B. PETZOLD,
—*General Electric Review, Oct., 1947.*

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REINHOLD PUBLISHING CORPORATION

NEWARK — PLASTICS PIONEER

By ISLYN THOMAS

Author of "Injection Molding of Plastics"
Past President, Newark Section S.P.E.

The city of Newark and its surrounding area is rich and abundant in historical and technical data regarding the early development and background of our new industry.

Seventy-five years ago our industry had its beginning in a small shabby plant in the Ironbound Section of Newark. It later spread throughout the entire state and finally into the rest of the world.

Although many previous chemists had experimented with cellulose nitrate, it was John Wesley Hyatt who found the means of converting this compound into a material for commercial use.

In 1870 Hyatt was approached by Charles A. Seeley who had also been experimenting with collodian to find a substitute for hard rubber in denture plates. The association of these two men resulted in the establishment of the Albany Dental Mfg. Co. in 1870, which, in 1872 became the Celluloid Corp. of Newark, New Jersey.

Recognition of John Wesley Hyatt as first to work successfully with cellulose nitrate and gum camphor, has overshadowed the credit due his invention of the stuffing machine — a machine which, in principle, resembles our present day injection machine.

In November, 1872, patent No. 133,229 was issued to John Wesley Hyatt and his brother Isaiah covering a heating cylinder for the extrusion of cellulose nitrate. This stuffing machine consisted of a hydraulically operated plunger and a steam heated chamber provided with a discharge nozzle. (See Figure I)

The plastic material was placed in the chamber and pressure applied to it by the entry of the plunger. The material under this heat and pressure was forced through the discharge nozzle into a mold tube or pipe. The temperature of this pipe was controlled to solidify the material, forming it into continuous rods, sheets or tubes. One of these first stuffing machines was built by Charles Burroughs in the nineteenth Century.

First Injection Mold

Charles Burroughs, Sr., built a number of Hyatt Stuffing Machines during the period between 1870 to 1898 when he operated as an individual in Newark, N. J. The continuous rods, strips and tubes which were being produced at the time were machined into various types of articles. As far as can be determined, no attempt had been made to mold individual pieces until John Wesley Hyatt was granted patent No. 202,441 on March 25, 1878, which covered an improvement in coating articles with Celluloid by the use of an injection mold. (Figure 2 and 3)

Prior to that time, the core to be coated was placed in a formed die between two plactic sections or disks and then subjected to heat and pressure. The articles thus produced were not entirely satisfactory because there was always a seam about the core where the plastic composition was not homogeneously united; hence, when thoroughly dried, it was apt to crack or open up on the line of the seam.

The first injection mold consisted of six cavities and was used to cover metal harness buckles with Celluloid to imitate leather. The metal buckles were placed in the mold and the molding material squirted into the cavities through the runners and gates.

In order to keep it closed during the injection cycle, the mold was held in a vertical hydraulic press mounted beside the stuffing machine.

Charles Burroughs and his company manufactured and sold to Rubberset & Celluloid Harness

(Continued on Page 20)

17 H-P-M's

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NAT'L COMMITTEE MINUTES

R. G. Dailey, Chairman, National Meetings Committee, presented committee request for the establishment of a special bank account for the use of this Committee in connection with the Detroit Meeting in January, 1948. Upon motion made, seconded and passed, the necessary bank resolutions were authorized. Any two of the following signatures were authorized, Anthony D'Agostino, P. F. Robb, and H. J. McGowan.

The Committee met with Mr. G. C. Best of Birmingham, Michigan who has been soliciting advertising for the SPE News. Mr. Best outlined his method of operation especially in connection with the January Issue and it was determined that there would be little or no conflict between the Detroit Section and Mr. Best. On the advertising the Detroit Section secures, there is no obligation to pay Mr. Best any commission. The principle for all Sections is affirmed, namely that on advertising secured by Sections no commission will be paid to any solicitor.

The report of the National Educational Committee was read and approved. The Committee was thanked for its excellent work. The requested changes in By-Laws will be brought up at the next meeting of Council for action.

A signed petition of 15 Members of the Northwestern Pennsylvania Section was read. This petition calls for voting privileges for Associate and Junior Members. This committee approves the petition for necessary action at the Annual Meeting.

The Committee discussed By-Laws Changes B-24, B-29-A, B-47 and B-24 relating to making the retiring President a national Director at large for a period of one year, and a member of the Executive Committee for this period. Consideration by the National Council at its next meeting was directed.

The National By-Laws Committee was requested to make the necessary changes in By-Laws, Constitution and Rules so that a new printing can be made early in 1948.

Mr. Orr reported for the Membership Committee. All Members who have not paid 1947 Dues have been re-invoiced during October with a special letter and the response has been good. All 1948 Dues will be mailed with the November Issue of the SPE News to all members.

Upon motion duly made, seconded and passed, the formation of the new Northern Indiana Section was recognized as of January 1, 1948.

The Membership Committee announced that the organizational meeting of the Baltimore-Washington Section would be held on December 2nd, 1947 at Washington, D. C., and that the organizational meeting at Montreal, Quebec would be held December 16, 1947, and that the Ontario Meeting at Toronto probably would be held in December. This Committee also reported that the Detroit Section would sponsor a Section in Central and Western Michigan at an early date. The Committee also reported on the Texas and Seattle situations.

The Membership Committee reviewed the situation in Canada. For the present it was agreed that all Initiation Fees should be retained by the new Canadian Sections at all times and that 50 percent of the Annual Dues would be retained for Publication and other costs.

The Toledo and Newark Sections were congratulated on having done a fine job in sponsoring the November and December Issues of the SPE News respectively.

The Executive Committee met with the National Meetings Committee in connection with the National Annual Technical Conference to be held in Detroit from January 21 to 23, 1948 at 3 p. m.

A budget for the National Meetings Committee was discussed.

The urgency of getting out contracts and complete data before December 1st, 1947 was stressed. Mr. Dailey stated that this would be done. It was pointed out that the January Issue of the SPE News would be the program issue and that this would be self-sustaining.

Mr. Orr announced the appointment of Mr. Fred Conley (Detroit Section) as Chairman of a National Historical Committee.

Meeting adjourned at 5:45 p. m.

THOS. E. ORR,
National President.

Plastics - Tool Engineering Co.

70 Bridge Street, Hackensack, N. J.

MODELS • MOLDS

TRANSPARENT	•	COMPRESSION
WORKING	•	INJECTION
PRE-MOLD	•	TRANSFER

PLASTICS *(Continued from Page 1)*

terials in sheets, rods, and tubes, and continuous length films and foils.

There are roughly 60 thermosetting molders, 20 extruders, and 80 injection molders in New Jersey alone. Some of these molders have equipment for two or more types of molding. Many of the molders are known throughout the United States and in numerous foreign countries. Probably the most widely known are American Hard Rubber Co., Butler, Boonton Molding Co., Boonton, Cellu-plastic Corp., Newark, Columbia Protektosite Co., Inc., Carlstate, Industrial Synthetic Corp., Garwood, Irvington Varnish & Insulator Company, Irvington, Lapin Products, Inc.,

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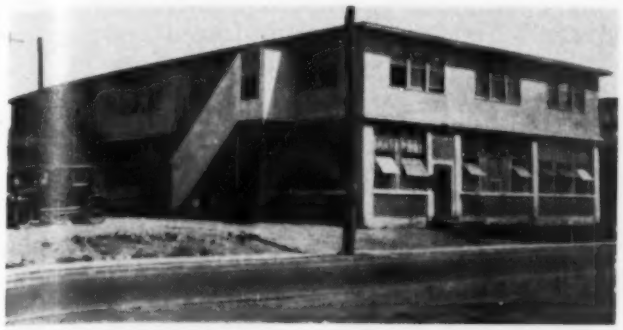
PLASTICS

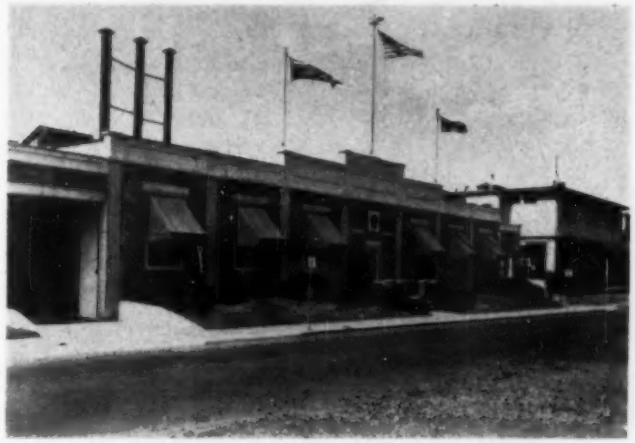


Boonton Molding Co. then and now.
Above—1922; at right—1947.

Newark, Mack Molding Co., Wayne, Pyro Plastics Corp., Union, Shaw Insulator Co., Irvington, and Sterling Plastics Co., Union. One of the largest manufacturers of laminate phenolic products, Panelyte Div., St. Regis Paper Co., is located in Trenton, N. J.

Beside the molders in New Jersey, there are numerous other concerns located here that fabricate and use plastics in their business. For example: David Kahn, Inc., North Bergen, is the largest manufacturer of pens and pencils in the world; The Emeloid Co., Inc., Arlington, Sillcocks-Miller Company, South Orange, and the Whitehead & Hoag Company, Newark, are leaders in the Plastic advertising novelty business. The General Laminating Co., in Lyndhurst, and International Plastic Corporation, Morristown, are two well known laminating concerns. RCA molds tremendous quantities of plastics into radio parts and records at their Camden plant.

So if you have a plastic problem, be it large or small, it is not at all unlikely that someone in New Jersey will have a hand in the solution. You are almost certain to find what you have been looking for in one or the other of New Jersey's fine plastic plants with their well-trained personnel.



TO THE MEMBERS OF S.P.E.

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BOONTON MOLDING COMPANY

BOONTON, N. J.

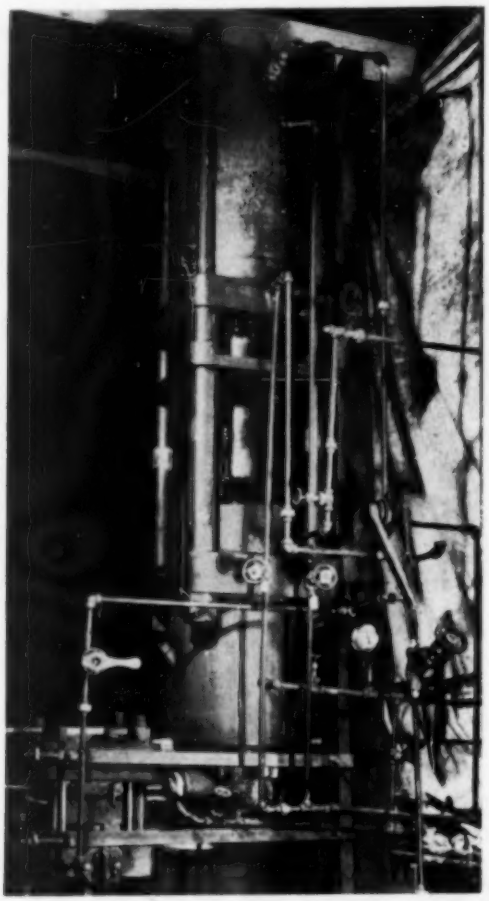
Who have been trying since 1921 to be Good Custom Molders

But still feel that there is lots to be learned thru your group.

NEWARK - PIONEER

(Continued from Page 17)

Trimming Co. a number of these molding machines, as disclosed in the Hyatt patents. For a period of more than 25 years the Rubberset Co. used those machines in commercial manufacture of Celluloid articles.



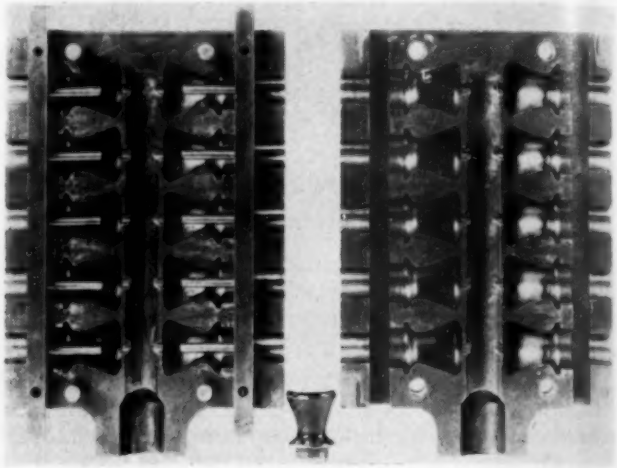
Now a museum piece, this early Burroughs stuffing machine and hydraulic press are still in good operating condition.

One of the first stuffing machines and its hydraulic press made by Charles Burroughs, is currently located at the Tennessee Eastman Corporation. Although this equipment is not being used for actual production it is maintained in good operating condition as a museum piece representative of the first injection machine molding machine used with thermoplastic material.

Origin of Hobbing

With the development of Celluloid and the stuffing machine, it was found that in order to produce toothbrush handles, harness buckles and similar molded items in fairly large quantities, it would be necessary to have multiple cavity molds. Early experiments proved that steel cavities were best suited for this type of work. However, production of these steel cavities by machining was very expensive due to the necessity of filing and stoning out tool marks. Also, it was practically impossible to produce cavities of uniform size and contour by this method.

In experiments to produce economically cavities having a high polish and uniformity of size and contour, Charles Burroughs, Sr., in about 1876



Wooden cores or removable bars in mold for shaving brush handles.

conceived the so-called method of hobbing. He found that a highly polished steel master of the article (called a hob), if properly hardened, could be sunk into a piece of cold soft steel through the

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DESIGNED AND CONSTRUCTED BY
MEN HAVING EXPERIENCE AND
"KNOW HOW"

NEWARK - PIONEER

(Continued from Page 20)

use of a hydraulic press. When the hob was removed from the soft steel cavity, the surface of the cavity was as highly polished as the hob. Furthermore it was discovered that in compressing the soft steel the pores of the steel were considerably diminished in size—making a closer-grain piece. From the master hob, many mold cavities could be produced, unvarying in size and with duplicate polished surfaces.

Shaving brush handle molded in Hyatt injection machine in the 19th century.

Hobbing as known today has undergone no basic change. However, many improvements had to be made in equipment, hobbing steels and technique to meet the tremendously increased demand for mold cavities of larger size, with closer limits, and in shapes unheard of in the early days of the plastics industry.

One important development in hobbing presses was the rodless type of press invented by Charles F. Burroughs, son of Charles Burroughs, Sr., who consistently experimented on various types of presses and hobbing procedures in conjunction with John Hohl, founder of the Newark Die Company.

Rev. Hannibal Goodwin

In 1887 Rev. Hannibal Goodwin, a Newark Minister, contributed greatly to the development of plastics in his desire to seek a more effective way of spreading the gospel. In his endeavor to seek an unbreakable material on which Biblical stereoptican views could be printed, he invented kodak film, forerunner of today's motion pictures. Rev. Goodwin was the rector of the House of Prayer, which still stands at Broad and State Streets in Newark. Discussing his invention, he said,

"Yes, my invention — but I don't like to be called an inventor. A priest of the church is my title, and of that I am very proud."

Emil Hemming, Sr.

After Emil Berliner was given credit for the first application of shellac as a plastic in 1895, Emil Hemming in 1909 developed a bituminous plastic. The importance of this material lies in the fact that for the first time in the industry an asphalt base was used in manufacturing a plastic compound. Hemming's development work on this cold molded material was done in the Newark area and it gave to our industry a material possessing better heat resistance than cellulose nitrate (Celluloid) or shellac plastics. In the early days the main use of this type of material was for electrical devices and handles and knobs for cooking utensils.

Later Developments

Dr. L. H. Baekeland's announcement in 1909 that gave the world a new plastic material was received enthusiastically by industry as well as chemistry. At last one of chemistry's greatest mysteries, which had baffled such noted chemists as Baeyer, Kleeberg and Luft, had been solved.

Chemically speaking, it started with the researches of phenol-aldehyde reaction conducted between 1905 and 1909 by Dr. Baekeland in his laboratory in Yonkers, N. Y. Even as far back as 1907 commercial applications of Bakelite resinoid began on a small scale. Soon Dr. Baekeland found he could no longer supply the ever-increasing demand for materials from his own laboratory, so on October 10, 1910, he formed the General Bakelite Company. The plant was established at Perth Amboy, N. J.

J. W. Aylsworth, chemical consultant for Thomas Edison, saw the possibilities for making better phonograph records out of this material. On September 23, 1910 the Condensite Company of America was formed to exploit the inventions of Aylsworth.

Condensite began in Edison's Glen Ridge, N. J.

(Continued on Page 22)

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NEWARK - PIONEER

(Continued from Page 21)

plant and later moved to much larger quarters in neighboring Bloomfield.

In Chicago Adolph Karpen of S. Karpen Bros. had the idea that these materials might be used to produce superior varnishes for his furniture. He established the Robert Kennedy Duncan Industrial Fellowship at the University of Kansas and selected L. V. Redman for the fellowship. On February 20, 1914, Redmanol Chemical Products Company was organized to continue the preliminary work of Redman.

Redmanol started in part of Karpen plant, but soon had to take much larger quarters across the street.

On March 22, 1922 the consolidation of General Bakelite Company, Redmanol Chemical Products Company, and Condensite Company of America took place. The result of this triple merger was the Bakelite Corp. which in 1939 became a unit of the Union Carbide and Carbon Corporation.

Since the merger and expiration date of Dr. Baekeland's patent in 1926 there has been a tremendous influx to the plastics field which in turn has affected practically every phase of our industry. Tremendous strides have been made, not only with the material manufacturers, but also the allied machine and mold manufacturers, who have played such an important part in the dynamic growth of our plastics industry.

We in the Newark area are proud of our heritage and our pioneering plastics experience which has affected the lives of practically every inhabitant on the face of the globe.

MIAMI VALLEY

(Continued from Page 15)

our Secretary, Jack Braden, who is chairman for the December meeting. It is to be more in the nature of a social night. designed for the special benefit of the wives and friends of the members. It will be held on December 4th at the Miami Valley Golf Club in Dayton.

Dr. Marie Bentivoglio, of the Celanese Corp. of America, Plastics Division, will be the principal speaker, with a message that will be directed to the ladies attending this meeting, rather than being of a technical nature.

In addition, arrangements have been made with Rike-Kumlers store to have a style show, featuring the latest synthetic fabrics, as well as plastic accessories, to be displayed by models. Miss Lorna Cooper, the new Fashion Co-ordinator for Rikes will be the narrator for the show. Miss Cooper has done fabrics research work, was on the faculty of the Pratt Institute in Brooklyn, and a member of the McCall Style and Beauty Staff.

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ROCHESTER COMMITTEES APPOINTED: THOMAS TALKS

By GEORGE A. PECK

53 members and guests of the SPE attended a dinner meeting and lecture at the Hotel Rochester on November 18, 1947. After the dinner Mr. Islyn Thomas of the Thomas Manufacturing Company assisted by Mr. John Spitzing of the Newark Tool & Die Company gave a very interesting lecture on "Mold Design, Hobbing and Its Limitations," which was very well received. Mr. Thomas' lecture was augmented with several slides illustrating various points of his lecture and the discussion period which followed was very educational. Several questions were asked by the Rochester group which were answered very ably by Mr. Thomas and Mr. Spitzing.

Mr. Howe held a short business meeting at which time the Chairman of the Membership Committee, Dr. Whitman, asked that we concentrate our efforts in obtaining about 20 new members in SPE for the next two months' period.

It was decided that the next meeting place would be Lorenzo's Restaurant on December 16, 1947.

OCTOBER MEETING

35 members of the SPE gathered at the Hotel Rochester to enjoy a turkey dinner followed by a discussion of various problems which had been encountered in the area. The discussion was conducted with a panel composed of Messrs. Steele, Palmer, Manning, Spitznagel, and De Lair. The problem was presented and various members of the panel were asked for their opinions and then the problem was thrown open to the general group for any opinions they might have. Six problems were discussed and it was decided to make this a regular part of each meeting, as considerable interest was shown.

Mr. Howe introduced Mr. Goepfert of the Buffalo Section who gave a short talk on the contest problem and asked that we elect two members to serve as judges to work with the Buffalo Section.

Mr. Howe introduced each committee chairman and they presented the members of their committees as follows:

1. — Section Membership Committee: Dr. Vernon Whitman, Chairman, George Peck, Arthur Pundt.
2. — Section Credential Committee: Frederick Ciambrone, Chairman, Dr. Vernon Whitman, Emerson Alexander, Ernest Goral.
3. — Section Nominating Committee: Chester Crumrine, Chairman, Harold Bardwell, Ernest Goral, Charles Kolstad, James Panosian.
4. — Section Finance Committee: Richard Hayes, Chairman, Edwin Mix, Lawrence Loveless, Gerald DeLair, Charles Franz.
5. — Section Auditing Committee: William Manning, Chairman, Rodney Sultzbach, Francis Currie, James Panosian.

(Continued on Page 28)

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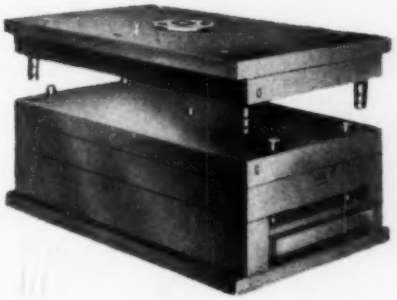

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DETROIT CONSIDERS NATIONAL TECHNICAL PROGRAM

SPE Data Handbook Proposed

By WALTER KOSY

The November meeting of the Detroit group was held in the Rackham Memorial Building on November 21, 1947 with Mr. John Miller of Durez acting as Toastmaster.

Mr. Miller introduced the guest of the evening, SPE National President, Tom Orr of Cleveland, who remarked briefly on the progress of SPE to date. He outlined plans for the formation of new sections; reported on the progress of the January SPE National Annual Technical Conference; and discussed the outcome of the SPE-SPI Conferences.

Mr. R. G. Dailey, General Chairman of the January National Annual Technical Conference was then called upon and he introduced the members of his committee who were present including Phil Robb, Vice-chairman; Dick Walsh, Publicity; A. D'Agostino, Secretary-Treasurer; Harry McGowan, Program - Publications; Gunnar Lindh, Speakers; and Don Hoffman and J. Koons, Exhibits.

Doc Storfer then reported on the progress of the Technical Committee and introduced Mr. Jack Totten who outlined a projected national technical program. There was considerable discussion from the floor on how the national technical program should be handled and a resolution was made and carried that the proposed SPE handbook be based on an engineering breakdown of processes rather than on end use specifications.

A recent movie in technicolor by the Tennessee-Eastman Corporation on the manufacture and use of Tenite plastics was then shown.

Mr. John Slater, Detroit sales representative of Tennessee-Eastman, introduced the film.

The plastics technical forum on compression molding which was to have been held was postponed by John Mickey because of the lateness of the hour.

Koppers Company Acquires Manufacturers Chemical Corp. Today

Pittsburgh, Pa., Nov. 20 — Koppers Company, Inc., today acquired all stock of the Manufacturers Chemical Corporation and its sales subsidiary, the Chemsaco Corporation, both of Berkeley Heights, N. J.

Dan M. Rugg, Vice President and General Manager of Koppers Chemical Division, which will operate the newly acquired plant, and Henry Harding, Manufacturers' President, said in a joint announcement that the purchase was made by issuing shares of Koppers common stock to the owners of the purchased corporations in exchange for their previous holdings.

The newly acquired companies will be operated as wholly-owned subsidiaries of Koppers.

NEWARK OFFICERS

(Continued from Page 4)

Vice President — James T. Growley

"Jim" Growley serves Celanese Plastics Corporation as Sales Engineer in the Newark area. He has served the Newark Section as Secretary in 1946 and is now Chairman of the Membership Committee. A story "Jersey Plastics" by Jim Growley is printed elsewhere in this issue.

Secretary-Treasurer — Harold E. Frutchey

"Hal" Frutchey graduated in Mechanical and Aeronautical Engineering from Penn State Evening School. He also attended the University of Scranton and Plastics Industries Technical Institute. He worked 13 years at Consolidated Molded Products Company, 2½ years at Ideal Plastics Corporation and is now with Thomas Manufacturing Corporation.

Mr. Frutchey outlined a four series course and taught plastics for 3½ years at Brooklyn Polytechnic Institute. He is a member of ASTE, SPI and was a former director of Plastics Club of the United States.

Director — John E. Currier

John Currier serves the Newark Section as a director and as Chairman of the Program Committee. He graduated from Montclair Academy in 1933 and received a B.S. in Chemistry from Lafayette College in 1937. He also did graduate work at Columbia University Graduate School of Chemistry. "Johnny" Currier was employed as a Research Chemist prior to joining Bakelite as Technical Representative in 1939.

Director — Edward F. Keusch

"Ed" Keusch, now employed at Boonton Molding Company, as Tool and Product Engineer, graduated in Electrical Engineering from the University of Illinois in 1924. His broad plastics experience includes an assignment at the Western Electric Company as Development Engineer, and another assignment as Chief Engineer for Universal Plastics Corporation. At one time he was Tool and Die Engineer for the Markwell Products Company of Kansas City, Missouri.

Director — Edward Ackerman

"Ed" Ackerman serves as a director and has done an outstanding job as Publicity Chairman for the Newark Section. He was responsible for this issue of the News, assisted by Ed. Soules, who sold the advertising. Mr. Ackerman is in charge of Advertising and Sales Promotion for Chemaco Corporation and is especially interested in public relations in the plastics field. He is a member of the Advertising and Selling Club of New York and takes a very active part in all local civic affairs.

Other active committee chairmen of the Newark Section are as follows:

Engineering Committee — Gil Peakes of Bakelite Corp.

Education Committee — Carl J. Frosch of Bell Telephone Laboratories.

House Committee — Wally Gryce of Plastics Technical Services, Inc.

SPE Bulletin Reporter — Edward Soules of Detroit Mold Engineering Company.

HI-JECTOR TALK AT PENN

By N. R. REYBURN

The Society of Plastics Engineers, Inc., Northwestern Pennsylvania Section, held its November meeting on the thirteenth at the Uthmann Chor in Erie. Forty-three members and their guests were present for a fine dinner and meeting.

(Continued on Page 27)

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NEW YORK SECTION HEARS MACY'S TESTING PROGRAM

By WILLIAM SCHACK

"Plastics from the Retailer's Point of View" was the subject of the talk given at the November 10 meeting of the New York section held at the Hotel Sheraton. The speaker was Ephraim Freedman, director of the Bureau of Standards of R. H. Macy & Co., New York department store.

Declaring that Macy's considers itself as the buying agent for the community it serves rather than as a manufacturers' outlet, Mr. Freedman said that his department tests all products from the consumers' point of view, which means testing them for adaptability, performance, durability and ease of maintenance. In this respect, plastics are not treated any different from other materials, the sole criteria being the serviceability of the merchandise.

The Macy Bureau of Standards has the authority, Mr. Freedman pointed out, to reject any merchandise which it considers substandard for the store. It also passes on the advertising to see that excessive claims are not made, and it develops specifications and informative labels.

Asked whether the public does not find too much uniformity in the glossiness of molded products, Mr. Freedman said that the public prefers the lustrous finish and that it makes for easy cleanability.

In discussing the limitation price imposes on quality, Mr. Freedman cited the case of the store having at one time eliminated pyroxylin-coated aprons and fabrics, only to bring them back when the customers refused to pay the higher prices of the vinyl-finished products.

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CONFERENCE PROGRAM

(Continued from Page 2)

3. 10:00 **E. J. Marslek**—Acme Scientific Company—Design and Finish Requirements on Molds for the Production of Plastic Lenses.

   Emil J. Marslek—Vice President of Acme Scientific Company, Chicago, Illinois—B.S. in Mechanical Engineering from Illinois Institute of Technology — Assistant to Vice President of Acme Industrial Co.

4. 10:30 **L. E. Cheyney** — Battelle Memorial Institute—Plasticizers in the Plastics Industry.

   L. E. Cheyney—Assistant Supervisor of resin and rubber research of Battelle Memorial Institute, Columbus, Ohio—B.S. in Chemistry from the University of Akron, M.S. in Chemistry from the University of Pennsylvania, Ph.D. in Chemistry from Ohio State University—industrial experience with B. F. Goodrich Co. and Goodyear Tire and Rubber Co., Battelle in 1945—member A.C.S., S.P.E. and A.S.T.M., Secretary of the National Advisory Council.

5. 11:00 **R. Fordyce** — Monsanto Chemical Company — Styrene Polymers and Copolymers.

   R. Fordyce (Reid R.)—Sales Development Manager, Plastics Division, Monsanto Chemical Co. Sept.

(Continued on Page 28)

N. W. PENN

(Continued from Page 25)

President Paul Roche discussed the revised SPE constitution, and particularly the matter of a national council member to be selected by each Section. He further announced that three new Section directors were to be elected and asked that the nominating committee prepare a list for the forthcoming election. Voting procedure was explained.

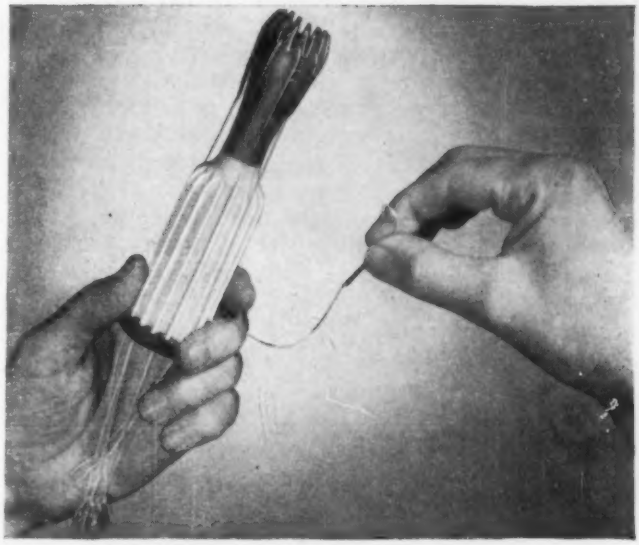
The final announcement on the prize paper contest was also announced together with a Section prize of $25.00.

The national interest in a fall membership drive was announced, and several new applications were received.

The speaker of the evening was Mr. Earl Johnson of the Rockford Machine Tool Company who gave a very enlightening talk on the Rockford Hi-Jector machine for handling thermosetting plastic by completely automatic procedure. He claimed an average of forty to seventy five heats per hour with this unit. Following his talk, Mr. Harry Edmonson of the Nosco Plastics in Erie gave a very well arranged and interesting talk on proprietary sales of plastic parts. This was an unusual topic for the group and was very well received.

Following this a Director's meeting was held and nomination made for directors.

HOW NEWARK DIE COMPANY HELPED A FISHERMAN'S DREAM COME TRUE . . .



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Newark Die Company is proud of its role in the cast responsible for the development and manufacture of HOOK PAK. We designed and produced the master hob and hobbed cavities from which Dillon-Beck Co., Hillside, N. J., molded the parts for the Gliebe Co., Brooklyn, N. Y., manufacturer of HOOK PAK. The finished product and its accurate, economical manufacture are a tribute to the cooperation and know-how of the three organizations.

HOOK PAK is another case history showing how Newark Die Company serves the plastic industry. If you have a production problem requiring multiple cavity molds, perhaps we can help you. More than 25 years' experience in producing thousands of compression, transfer, and injection type molds qualifies us to turn out the hobs, hobbed cavities, and machined molds you need.

Write today for your free copy of our illustrated booklet, "The Procedure of Die Hobbing."

MASTER HOB
Designed and Produced by Newark Die Company.

HOBBED CAVITY
Made by Newark Die Company.

FINISHED PRODUCT
Molded by Dillon-Beck Co. for The Gliebe Co.

NEWARK DIE COMPANY

36 SCOTT ST. NOCD TRADE MARK NEWARK 2, N.J.

ROCHESTER

(Continued from Page 23)

6. — Section Program Committee: Eugene Cathcart, Chairman, Harold Bardwell, James Panosian, Charles Williams.
7. — Section House Committee: Joseph Windheim, Chairman, Rodney Sultzbach.
8. — Section Publicity Committee: Charles Williams, Chairman, Francis Currie, Edmund Baas.

The meeting was adjourned and there was a short meeting of the Board of Directors at which time Mr. Charles Kolstad was elected Inspector of Elections; Mr. Harry Steele and Mr. Henry Kauth were elected as judges of the contest problem; Messrs. Gene Cathcart, Gerald DeLair and George Peck were elected delegates to the National Council, and the problem of the SPE bank account was straightened out.

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CONFERENCE PROGRAM

(Continued from Page 27)

1947—born in Canada—B.S. and M.S. in Chemical Engineering from the University of British Columbia, Ph.D. Chem. from McGill University 1939—high polymer research chemist Monsanto 1939, group head 1945.

6. 11:30 **P. S. Olmstead**—Bell Telephone Laboratories, Inc.—The Consumer Looks for Quality.

Paul S. Olmstead — B.S. from Princeton,, Queen Fellow 1920-1922, Ph.D. Princeton—Research Physicist, Western Electric Company 1920, Bell Telephone Laboratories, statistical consultant for station apparatus development, 1936—fellow A.A.A.S., Physical Society, Statistical Assn. (Chairman 1945), Institute Math. Stat., Society for Quality Control (Director 1945), A.S.T.M. and many others—Published 17 papers on various subjects.

THURSDAY MORNING, JANUARY 22, 1948

GUNNAR LINDH, PRESIDING

7. 9:00 **H. M. Richardson**—DeBell & Richardson—The Production Economics of Press Design.

Henry M. Richardson—Treasurer of DeBell & Richardson, Consulting Engineers, Springfield, Mass.—Degree in Electrical Engineering from the University of Colorado—General Electric Co. 1925-1943, Commercial Engineer in charge of molded and laminated plastics 1928-1936, Chief Engineer 5 plants 1936-1943.

8. 9:30 **S. K. Moxness & J. Formo**—Minneapolis Honeywell Regulator Company—Developments In Steampreheating of Phenolic Materials.

S. K. Moxness—Chief Process Engineer of Minneapolis Honeywell Regulators Co., Minneapolis, Minn. J. Formo—Supervisor of Plastics Laboratory.

9. 10:00 **J. E. Teagarden**—E. I. du Pont de Nemours & Company — Industrial Uses for Nylon.

J. E. Teagarden—Technical Service for E. I. du Pont de Nemours & Co., Arlington, N. J.—B.S. from West Virginia University and Waynesburg College, Ph.D. from Ohio State University—du Pont

(Continued Inside Back Cover)

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CONFERENCE PROGRAM

(Continued from Page 28)

1941; 5 years in Research and Development Department of Chemical Division.

10. 10:30 **Miss D. Dolton**—Interchemical Corporation—The Theory of Colorimetry and Its Application to Color Standardization.

Miss Dorothy Dolton—Head of Colorimetry Department 1945 of Interchemical Corporation, New York, N. Y.—B.A. from Barnard College, Interchemical Corp. 1942.

11. 11:00 **P. M. Koons** — The National Cash Register Company—Methods for Industrial Color Standardization.

Paul M. Koons—Head of Industrial Design Department of The National Cash Register Company. Dayton, Ohio — design 2 years Aladdin Manufacturing Co., 8 years Delaware Engraving Co., 2 years Glascork Brothers, 8 years Frigidaire Division of General Motors, The National Cash Register Co. in 1944

FRIDAY MORNING, JANUARY 23, 1948

L. E. CHEYNEY, PRESIDING

12. 9:00 **O. L. Pierson**—Rohm & Haas Company—Fabrication and Cementing of Heat-Resistant Plexiglas.

O. L. Pierson—Head of Plastics Applications Laboratory of Rohm & Haas Company, Phil., Pa.—Graduate of the University of Nebraska, M.S. and Ph.D. in Mechanical Engineering from Rensselear Polytechnic Institute — Analytical Engineer with Babcock & Wilcox Co.. Development Engineer in Ansco Photographic Division of General Aniline, Rohm & Haas Co. 1941.

13. 9:30 **F. W. Reinhart**—National Bureau of Standards—A New Attack on the Degradation of Plastics.

Frank W. Reinhart—Asst. Chief, Organic Plastics Section of the National Bureau of Standards. Washington, D. C.—B.S. in Chemistry, Physics and Mathematics from Juniata College, has taken graduate courses at Columbia University, University of Maryland and N.B.S. Graduate School—taught college chemistry 7 years, Nat. Bureau Stds. 1937—member A.C.S., Washington Academy of Sciences, A.S.T.M., American Physical Society-Hobbies stamp collecting, gardening, photography and swimming.

14. 10:00 **A. H. Dietz**—Massachusetts Institute of Technology—Time-Strength Relations in Plastics.

Albert G. H. Dietz—Associate Professor of Structural Engineering and Materials in the Department of Building Engineering and Construction at MIT and Director of the Plastic Research Laboratory—Ph.D.

15. 10:30 **J. Searer**—Durez Plastics & Chemical Inc.—Special.

Winners of National S.P.E. Prize Paper contest.

16. 11:00 First Prize Paper.

17. 11:30 Second Prize Paper.

18. 12:00 Third Prize Paper.

NATIONAL ANNUAL TECHNICAL CONFERENCE

of the Society of Plastics Engineers, Inc.

JANUARY 21 - 23, 1948 DETROIT

AT THE HORACE H. RACKHAM EDUCATIONAL MEMORIAL
100 Farnsworth Avenue

TECHNICAL SESSIONS . Jan. 21-23, 9:00 a. m. to Noon

CONFERENCES . . Jan. 21-22, 2:00 - 5:00 p.m.; Jan. 23, 2:00 - 9:00 p.m.

Featuring new materials and developments with special reference to Automotive and Refrigeration Industries

CONFERENCES — By participating companies, clients and engineers in the Banquet Hall. Maximum of two 10′ by 7′ spaces will be assigned to participating companies. New products and developments may be featured in these conference spaces. Current plastic moving pictures will be shown in the afternoons in the Auditorium.

Open to SPE Members and those interested in Plastics Engineering. All Plastics Engineers are invited to attend Technical Sessions and Conferences upon registration. Admission to the Conferences will be by invitation of members and participating companies.

Annual Meeting — January 22, 11:30 a.m.

COMMITTEES

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Publicity	W. R. Walsh, Monsanto Chem. Co., 427 Fisher Bldg., Detroit 2, Mich.
Registration	C. H. Whitlock, Monsanto Chem. Co., 427 Fisher Bldg., Detroit 2, Mich.
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Program Publications	H. J. McGowan, Bakelite Corp., 807 Stephenson Bldg., Detroit 2. Mich.
Educational	E. W. Tillotson, Wayne University, 400 W. Warren, Detroit 1, Mich.
Exhibits	John Koons, Chairman, Amer. Plastics & Engineering Co., 3020 E. Grand Blvd., Detroit 2, Mich. M. R. Gerow, Vice Chairman in Charge of Exhibit Sales, Hercules Powder Co., 500 Fifth Ave., New York, N. Y. Don Hoffman, Vice Chairman in Charge of Operations, Evans, Winter & Hebb, 818 West Hancock, Detroit 1, Mich.
Reception	Karl Kithil, Celanese Plastics, 610 Stephenson Bldg., Detroit 2, Mich.
Speakers	Carl Frosch, Chairman, Bell Telephone Lab., Murray Hill, N. J. Gunnar Lindh, Vice Chairman, Udylite Corp., 1651 E. Grand Blvd., Detroit, Mich.

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